

Notes on the taxonomy and geographical distribution of *Erebia dabanensis* ERSCHOFF, 1871 and *Erebia fletcheri* ELWES, 1899 with the description of two new subspecies from the South Transbaikal, Russia

(Lepidoptera, Satyridae)

by

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Summary: The taxonomy, geographical variation, ecology, and distribution of *Erebia dabanensis* ERSCHOFF, 1871 and of *Erebia fletcheri* ELWES, 1899, are discussed. The lectotype of *Erebia dabanensis* ERSCHOFF, 1871 is designated. It is deposited in ZISP. A problem concerning the restriction of the type locality of *Erebia dabanensis* ERSCHOFF, 1871 is discussed. The type locality of *Erebia fletcheri* ELWES, 1899 is restricted. From the Sokhondo Mountains (South Transbaikal), two new subspecies are described: *Erebia dabanensis sokhondoensis* subsp. nov. and *Erebia fletcheri daurica* subsp. nov.

Резюме: Обсуждаются таксономия, географическая изменчивость, экология и распространение видов *Erebia dabanensis* ERSCHOFF, 1871 и *Erebia fletcheri* ELWES, 1899. Выделен лектотип *Erebia dabanensis* ERSCHOFF, 1871. Лектотип хранится в коллекциях ЗИН. Обсуждается вопрос о типовой местности *Erebia dabanensis* ERSCHOFF, 1871. Обозначена типовая местность *Erebia fletcheri* ELWES, 1899. С гор Сохондо (Южное Забайкалье) описаны два новых подвида: *Erebia dabanensis sokhondoensis* subsp. nov. и *Erebia fletcheri daurica* subsp. nov.

Introduction

In South Transbaikal, Russia, the Sokhondo Mountains are situated. This place is of special interest because the Sokhondo Mts. are in the northeastern limit of the Khentey (= Kentei, Hentey) mountain system. There are some high summits within the mountain tundra, which are completely isolated from the other mountain systems of Siberia with similar relief (fig. 1). Thus, it was expected, that of some Palaearctic arctic-alpine butterfly species, endemic local forms could develop at Sokhondo in conditions due to the geographical isolation.

The main part of Khentey is situated in Mongolia and it was never explored. The Russian part of Khentey was never explored too until recent time, because of the vast wilderness with no roads there. With the foundation of the State Biospheric Reserve "Sokhondinsky" around the Sokhondo Mts., the entomological research of the area has begun. In June 1999, the author has visited this region and found that the local forms of two species of the genus *Erebia* DALMAN, 1816, namely of *E. dabanensis* ERSCHOFF, 1871 and of *E. fletcheri* ELWES, 1899, are peculiar enough to be described as separate subspecies herein. However, taking into account the somewhat obscure taxonomy and the great disjunctive area of the distribution of both discussed species, it is necessary to review these problems in general first. This paper does not pretend to be an exhaustive revision, but tries to resolve at least some long-standing problems.

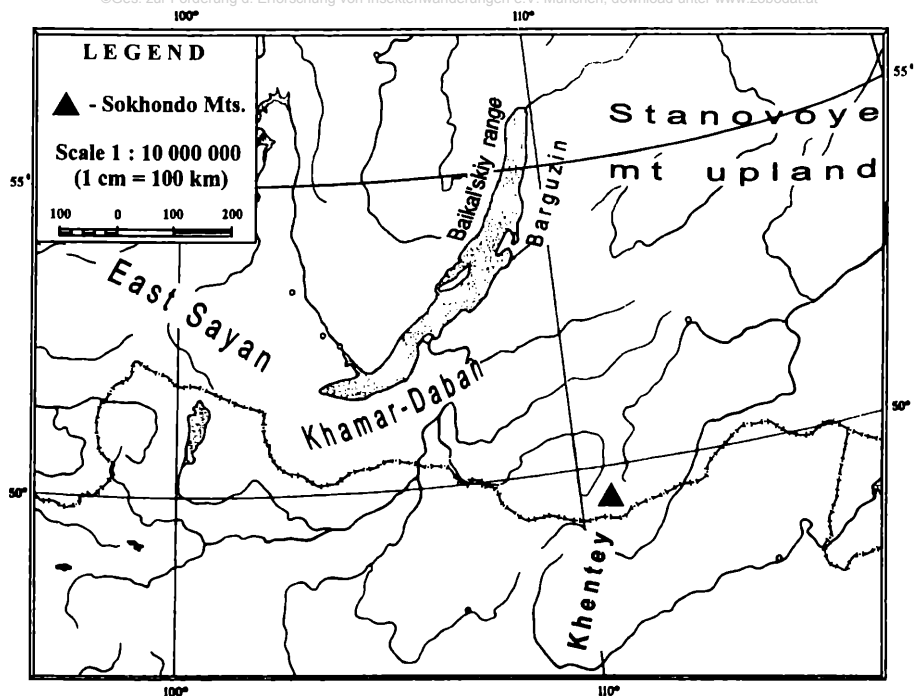


Fig. 1: Location of the Sokhondo Mts. and a scheme of the principal mountain systems in Cis-baikal and Transbaikal Siberia, which have alpine relief.

Abbreviated institutions:

DMM: Darwin Museum, Moscow.

EMEM: Entomologisches Museum Dr. Ulf Eitschberger, Marktleuthen, Germany.

NHM: The Natural History Museum, London.

VLCA: Vlaamse Lepidoptera Collectie, Antwerpen, Belgium.

SPU: Collection of St.-Petersbourg University.

ZISP: Zoological Institute of Russian Academy of Sciences, St.-Petersbourg.

ZMMU: Zoological Museum of Moscow University.

1. *Erebia dabanensis* ERSCHOFF, 1871

E. dabanensis ERSCHOFF, 1871 is distributed from Polar Ural to Chukotka (fig. 2) [Note: all the distribution boundaries on the map are preliminary, often extrapolated]. Four subspecies have been described hitherto, all from Russia.

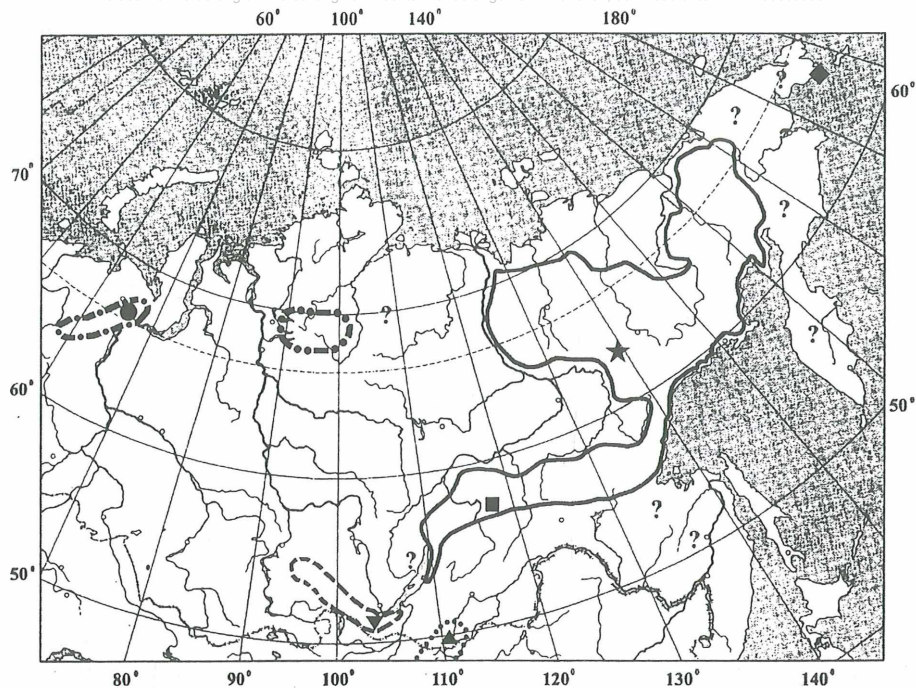


Fig. 2: Distribution of *Erebia dabanensis* and its subspecies in Eurasia.

- Type locality of *E. dabanensis olshvangi*
- ▼ Type locality of *E. dabanensis dabanensis*
- ▲ Type locality of *E. dabanensis sokhondoensis*
- Type locality of *E. dabanensis chingiza*
- ★ Type locality of *E. dabanensis troubridgei*
- ◆ Type locality of "*E. dabanensis* var. *tschuktscha*"
- Distribution of *E. dabanensis olshvangi*
- · - · - Distribution of *E. dabanensis (olshvangi?)* at Putorana Plateau
- - - Distribution of *E. dabanensis dabanensis*
- Distribution of *E. dabanensis sokhondoensis*
- Combined distribution of *E. d. chingiza* and *E. d. troubridgei*

1.1. *Erebia dabanensis dabanensis* ERSCHOFF, 1871 (colour plate XIII, figs 5–8)

Type locality: "le 10 Juillet dans les montagnes nommés Chamar-Daban, dans le gouvernment d'Irkoutsk". This taxon was described after two males. Of these two, the author has found a single male in the collection of ZISP. It is quite similar with the picture, which followed sometime later than the original description (ERSCHOFF, 1885: pl. XVI, fig. 1). The discovered specimen has the following labels: 1) "Chamar Daban 10/VII" hand-written with black ink on

white paper; 2) "к. Ершова" typographically printed in Russian (means "ERSCHOFF's coll."). It is designated as the lectotype, and the following label is attached: "Lectotypus ♂ / *Erebia* / *dabanensis* / ERSCHOFF, 1871 / A. BELIK design.

Synonymy

Erebia tundra STAUDINGER, 1887 (type locality: "von Kultuk aus dem Gouvernement Irkutsk"); junior subjective synonym (WARREN, 1936).

Though ERSCHOFF did not restrict the type locality in the original description, it is quite probable that his specimens came from the same locality like STAUDINGER's, i. e. from the vicinities of Kultuk village. The old and big village Kultuk is situated at the southwestern corner of Lake Baikal, near the modern town of Sludyanka. Kultuk was the major russian outpost at South Baikal, founded in 1647. There was the big old caravan trade road from Russian Siberia to Mongolia and China, which came across the Khamar-Daban mountain range. The road is known as "Mongolian Road" or "Khamar-Daban Road", it was built in the 18th century by the hands of convicts. The remains of the road are still well visible high in the mountains at the present time. From Kultuk village the road led across the mountain tundra of Khamar-Daban near the highest summit of this area, Pik Cherskogo (= Chersky' Peak) – 2090 m, which is situated about 25 km from Kultuk. Further to the South, the East and again to the South, the road led down via the valleys of the rivers Temnik and Selenga, to the town of Kyahta – the main centre of the russian-chinese commerce in the 18th to 19th centuries (BORODINA, 1973; BRYANSKIY, 1989; GRANINA, 1975). The road has lost its importance only after the construction of the Transsiberian Railway in the end of the 19th to the beginning of the 20th century. Thus, in the 18th and 19th century the mountain region of East Khamar-Daban was readily accessible for the occasional collector.

It is widely accepted that the populations of *E. dabanensis* from the East Sayan mountains (where this species is a very common butterfly) belong to the nominotypical subspecies. The author shares this point of view at present but with some reservations. Nowhere in the main russian collections there is a series of *E. dabanensis* from Khamar-Daban, to compare it with the specimens from East Sayan. During his two visits to the Pik Cherskogo area in 1990 and 1999, the author has collected a single male of *E. dabanensis*, which is indeed similar to the East Sayan specimens. But, taking into account the large individual variability in *E. dabanensis*, a sufficient series should be compared. So, further investigations in the East Khamar-Daban around Pik Cherskogo are necessary to clarify the situation and to restrict finally the type locality of *E. dabanensis dabanensis*.

1.2. *Erebia dabanensis olshvangi* P. GORBUNOV, 1995, in KORSHUNOV & GORBUNOV, 1995 (colour plate XIII, figs 1–4)

Type locality: "Polar Ural, Krasnyy Kamen' station, mountain Slantsevaya, 300–400 m" It is distributed in the mountain tundra and in valley stony-lichenous tundra of Polar Ural mountains. Perhaps, this subspecies is distributed much further to the Southwest across the Subpolar Ural mountains (KORSHUNOV & GORBUNOV, 1995). However, this is not confirmed by the

recent investigations in this area, so additional confirmation is necessary (TATARINOV & DOLGIN, 1999).

The subspecies is characterised by the dark blackish-brown wing ground colour, by the strong reduction of the silvery dusting on the hindwing underside, and by the strong reduction of light submarginal elements both on the wing upper- and undersides. In many specimens the light submarginal band on the forewing underside is so reduced, that there are present only the well separated ocelli.

With some reservations the author believes that the populations of *E. dabanensis* from the Putorana mountain plateau (located to the East of Noril'sk city) could belong to the same subspecies because of a certain phenetic similarity. On the other hand, the populations of Putorana are completely isolated from those of Polar Ural and might represent another separate subspecies. However, the insufficient comparative material available from the Putorana plateau does not allow to judge this with full certainty.

1.3. *Erebia dabanensis troubridgei* DUBATOLOV, 1992 (colour plate XIII, figs 17, 18; colour plate XIV, figs 1, 2)

Type locality: "Yakutiya, 180 km ENE of settlement Khandyga, upper stream of river Vostochnaya Khandyga, km 232 of the road Khandyga-Magadan" The type locality is situated at the Suntar-Khayata mountain range, in the eastern part of the Saha-Yakutiya Republic of the Russian Federation. Two paratypes included in the type series are from the Khrebet Cherskogo mountain range, about 250 km north-east from the type locality.

The status of this taxon was discussed during the last years, for two reasons. First, it is the inaccurate and confusing original description, without photographs of the imago and with no genitalia figures. The main distinctive feature in *troubridgei* from the nominotypical subspecies, is reported to be the light submarginal spots of the forewing upperside which are separated well from each other even in the females, while in *dabanensis* these spots are united into a submarginal band, in males—usually, and always—in females. This is absolutely not true. In *dabanensis*—both males and females—the light submarginal spots on the forewing upperside are almost always separated well, and only in very few specimens they are almost united into a band. The second reason for the debates is the complete absence of the topotypical material of *troubridgei* in hands of specialists in the european part of Russia. Some authors even considered it as a bona species, i. e. *E. troubridgei* DUBATOLOV, 1992 (Tuzov et al., 1997: 208; pl. 49, figs 16–18). However, the illustrated specimens from Bilibino (West Chukotka) are absolutely identical with *Erebia kozhantshikovi* ШЕЛУЗНКО, 1925 and belong to this species. All the differences to distinguish "*E. troubridgei*" from *E. kozhantshikovi*, reported in the text (loc. cit.), in fact are within the normal range of the individual variations in *E. kozhantshikovi*. Later it was reported, that by genitalia structure those "*E. troubridgei*" from West Chukotka belong to *E. kozhantshikovi*, indeed; also it was concluded by the same author that the taxon *troubridgei* belongs to the species *E. dabanensis* (CHURKIN, 1999).

The author believes, that *E. dabanensis troubridgei* is distributed much further to the East from its type locality, occupying the whole mountainous region of East Yakutiya, Magadan region and perhaps West Chukotka [Note: there are no reliable data, though, where there is the

easternmost limit of the distribution of *E. dabanensis* at Chukotka, east of Bilibino town]. Perhaps the populations of *E. dabanensis* from Northeast Transbaikal (recently described as a separate subspecies: see the paragraph below) belong to ssp. *troubidgei*, too. This is because of the big phenetic similarity of specimens from Northeast Transbaikal with those from the Magadan region. The mountainous region of Northeast Transbaikal (Stanovoye mountain upland) is continuously connected with the mountains of the Far Northeast through the Aldanskoye mountain upland and the Stanovoy mountain range and through the Jugjur mountain range along the shore of the Okhotskoye sea.

1.4. *Erebia dabanensis chingiza* CHURKIN, 1999 (colour plate XIII, figs 13–16)

Type locality: "Russia, Chita reg., Kodar Mts., near Sul'ban river, 1600–1900 m" In the type series are included some specimens from the Barguzin mountain range also. The present author has collected this taxon not far from the type locality, at the upper stream of Naminga river at the southwest part of the Udokan mountain range. It is about 80 km to the southeast from the type locality in the Kodar range.

Both *troubidgei* and *chingiza* differ from the nominotypical subspecies by the following features: most specimens have the ocellus in R5–M1 on the forewing upperside, so there are five submarginal ocelli, while in *dabanensis* most specimens do not have the ocellus in R5–M1, so there are four submarginal ocelli; the hindwing underside looks much darker than in *dabanensis*, with a strongly reduced amount of the silvery dusting; the wing upperside's submarginal ocelli both on the fore- and hindwings are bigger than in *dabanensis*; on the hindwing upperside there are usually four submarginal ocelli while in *dabanensis* there are three or two ocelli in the majority of the specimens; the light submarginal elements on the wing upperside are more contrasting with the ground colour than in *dabanensis*, since the ground colour is of darker brown with the submarginal ocelli of a more ochrish colour, while in *dabanensis* the ground colour is more dull brown with the submarginal ocelli of a darker reddish-brown colour.

As it was stated in the paragraphs above, the author considers the probability that *chingiza* should be synonymized with *troubidgei*. Future investigations of material from the mountains connecting these of Northeast Transbaikal with those of East Yakutiya (and so on) will help to resolve the problem.

1.5. *Erebia dabanensis* var. *tschuktscha* HERZ, 1903

Type locality: "Providenie-Bucht" – Provideniya Bay at the south part of Chukotskiy peninsula, East Chukotka. It is described after a single specimen, without being pictured. From the original description it is difficult to judge about the status of this form, taking into account the big individual variability in *E. dabanensis*. Further reservations regarding the taxon in question took place after the recent discovery of *E. youngi* HOLLAND, 1900 at East Chukotka (BELIK & ZAMOLODCHIKOV, in prep.). The present author did not find the type specimen of *tschuktscha* in the collections of ZISP yet, where it should be preserved. Without the study of the type it is now impossible to judge about the taxonomic status of *tschuktscha*.

1.6. *Erebia dabanensis sokhondoensis* subspec. nov.

Type material

Holotype ♂: ca. 49° 37' N, 111° 2' E; Russia, Chita region, Kyra district, Sokhondo Mountains, ca. 67 km WNW of village Kyra, 1990–2025 m, 18.VI.1999, A. BELIK leg. The holotype is deposited in ZISP.

Paratypes: 112 ♂♂, 36 ♀♀, same locality as the holotype, 17–26.VI.1999, A. BELIK leg.

4 ♂♂, 1 ♀ are deposited in ZISP, 2 ♂♂ – in SPU, 5 ♂♂, 1 ♀ – in ZMMU, 2 ♂♂, 1 ♀ – in DMM, 2 ♂♂ – in EMEM, 2 ♂♂ – in VLCA, 1 ♂ – in coll. S. CHURKIN (Moscow), 1 ♂ – in coll. K. MATSUMOTO (Tokyo), 2 ♂♂ – in coll. V. Tuzov (Moscow), 2 ♂♂ – in coll. R. YAKOVLEV (Barnaul), 1 ♂ – in coll. D. ZAMOLODCHIKOV (Moscow). All the remaining paratypes are deposited in the collection of the author.

Description

Male (colour plate XIII, figs 9, 10). The forewing length of the holotype is 19.5 mm. The average forewing length is 20.45 mm (range: 18.5–21.5 mm).

Forewing upperside: The ground colour is a vivid chocolate dark brown. In most specimens there is a distinct submarginal band of bright ochre-orange colour, in some specimens it is of a yellowish or of a ochre-red colour. This band is running from R5 to Cu2, but sometimes extends into Cu2–2A. It is intersected with thin dark brown dashes along the veins. The band is narrowed from the apical angle toward the anal one. In a few specimens, the submarginal band consists of separate spots. Within the light submarginal band, there are four black submarginal spots between M1 and Cu2. In a few specimens, there is a tiny black submarginal dot in R5–M1. The black submarginal spots vary greatly in diameter (from 1.5 to 0.5 mm) from specimen to specimen. In specimens with bigger spots these are elliptical, in specimens with smaller ones these spots are almost round. The fringe is either concolorous with the ground colour or paler, then consisting of golden-brown hairy scales.

Hindwing upperside: The ground colour as in the forewing. Between M1–2A there are from five (rarely) to three, usually four, submarginal ocelli of the same colour as the forewing submarginal band. The ocelli are centred with black spots or dots. Three ocelli between M2–Cu2 are always present and are of equal size, while the ocellus in M1–M2 usually is smaller and absent in some specimens. In a few specimens there is a tiny ocellus in Cu2–2A. The fringe is of the same colour as in the forewing.

Forewing underside: The ground colour as in the forewing upperside. But in the outer half of the wing, especially in the marginal band and in the space within M2–Cu2 between the submarginal band and the discal cell, it is of a reddish-brown colour. This is because of the big amount of red hairs and scales here. Corresponding to the submarginal band of the upperside, there is a ochre-orange or orange-red submarginal band, which is much broader than on the upperside, being about ¼ of the wing width. There are same black spots within the submarginal band, which correspond to the black spots of the upperside.

Hindwing underside: looks like divided into five clearly discernible zones, which are marginal, submarginal, medial, postmedial and basal. The common ground colour is dark brown, but it is hidden with more or less dense scales of other colours in some zones. The marginal band is reddish-brown, like in the forewing underside, but with some silvery dusting. The submarginal band and the postmedial zone look the most silvery because of the very dense cover of the silvery scales over the ground colour. The medial band is dark brown with some silvery dusting.

The basal zone is dark brown. The submarginal band contains the ocelli corresponding to those on the upperside. In most of the specimens there are five ocelli in spaces between M1–2A.

Genitalia (fig. 3): of the structure characteristic for the species (cf. WARREN, 1936: 245; pl. 41, figs 379–381). The spined ridge of the valvae usually has two to three rows of spines, sometimes four. A detailed study of the male genitalia of *E. dabanensis* from various localities revealed that this fact occurs regularly in any population of the species. A previous conclusion of the author, that in *E. dabanensis* there are just one to two rows of spines in the spined ridge of the valvae (BELIK, 1996), is not quite correct. The details of the spine system in *E. dabanensis* are explained well recently (CHURKIN, 1999).

Female (colour plate XIII, figs 11, 12). The average forewing length is 20.8 mm (range: 19.0–22.0 mm).

It has the same pattern as the male, but the coloration is much paler than in the male. The ground colour both of the wing upper- and undersides is more dusk and pale brown than in the male. The forewing submarginal bands are paler both on the upper- and underside, being a pale yellow or ochre. The hindwing upperside submarginal ocelli are somewhat brighter than in the forewing band, but still much paler than the same ocelli in the males. The black submarginal spots on the forewings are often relatively bigger than in the males.

Differential diagnosis

E. dabanensis sokhondoensis differs well from all the other subspecies. The main distinctive features of *sokhondoensis* are the continuous submarginal band on the forewing upperside and the very strong silvery dusting on the hindwing underside, unlike in other subspecies. From ssp. *olshvangi* and *dabanensis* it differs also by the ground colour of the wings. In *sokhondoensis* it is of a vivid dark chocolate brown, while in *olshvangi* it is almost black (very dark blackish-brown) and in *dabanensis* it is of a dull brown. Those very rare specimens of *dabanensis* and some of *chingiza*, which resemble *sokhondoensis* in having the forewing upperside submarginal ocelli united into a band, have not the same strong silvery dusting on the submarginal and postmedial bands of the hindwing underside as in *sokhondoensis*. Those specimens of *sokhondoensis*, which resemble *dabanensis* in the separated submarginal ocelli on the forewing upperside, also differ well from *dabanensis* by the hindwing underside: bright silvery submarginal and postmedial bands, and a contrasting reddish-brown marginal band almost without silvery scales. In *dabanensis* there are much more dull silvery dusted submarginal and postmedial bands, while the marginal band is silvery dusted too and is much lesser contrasting with the submarginal band. Those specimens of *sokhondoensis*, which resemble *chingiza* and *troubridgei* by the separated submarginal ocelli on the forewing upperside, also differ well from these two subspecies by the hindwing underside: more silvery submarginal and postmedial bands, the submarginal ocelli of smaller size and not so contrasting with the submarginal band.

Notes on the ecology

In the type locality, *E. dabanensis sokhondoensis* inhabits dry stony dryad-lichenous mountain tundra, with a larger percentage of boulder block stone areas over the grassy spots. At the same summit some other characteristic Siberian arctic-alpine species were common: *Erebia anyuica* KURENTZOV, 1966, *Erebia rossii* (CURTIS, 1835), *Oeneis melissa* (FABRICIUS, 1775). So it

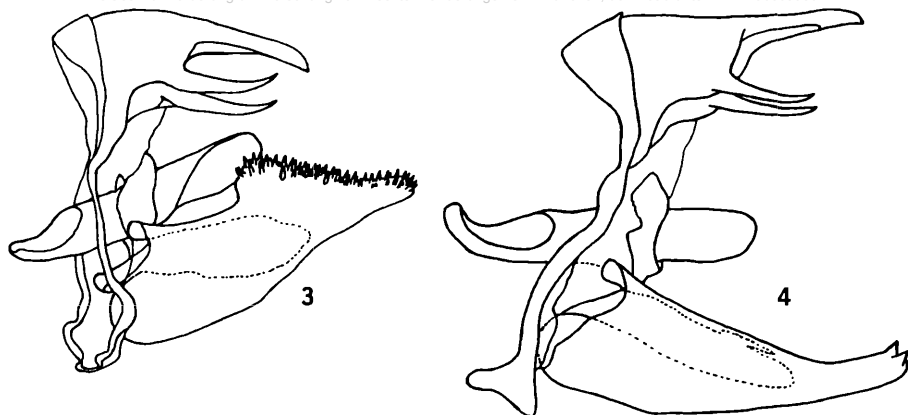


Fig. 3: Genitalia of *Erebia dabanensis sokhondoensis* subsp. nov., holotype ♂, lateral view with right valva removed. Ca. 49° 37' N, 111° 2' E; Russia, Chita region, Kyra district, Sokhondo Mts., ca. 67 km WNW of village Kyra, 1990–2025 m, 18.VI.1999, A. G. BELIK leg.

Fig. 4: Genitalia of *Erebia fletcheri daurica* subsp. nov., paratype ♂, lateral view with right valva removed. Ca. 49° 37' N, 111° 2' E; Russia, Chita region, Kyra district, Sokhondo Mts., ca. 67 km WNW of village Kyra, 1650–1820 m, 16.VI.1999, A. G. BELIK leg.

was visibly very clear in comparison, that butterflies of *E. dabanensis* prefer to flutter over the grassy spots avoiding the stone fields, while butterflies of the other three species mentioned preferred to flutter over the stone fields and were avoiding the grassy spots.

The males of *E. dabanensis sokhondoensis* were more active flying during the first half of the day, when they searched for females sitting on the ground. In the second half of the day the females flew more actively, apparently seeking suitable places for oviposition.

It seems worth to mention that the species *E. dabanensis* is more ecologically flexible than it is considered usually. Generally it is considered that it is strictly a dweller of the stony mountain tundra. Thus, this was one of the reasons to think that *E. dabanensis troubridgei* is a separate species or the same as *E. kozhantshikovi*, because of the remark in the original description of *troubridgei* that it is common not only in the mountain tundra but also in the sparse larch forests and in valley meadows and bogs (Tuzov et al., 1997; CHURKIN, 1999). Such biotopes as the last two ones are preferred by *E. kozhantshikovi*.

Besides the Sokhondo Mts., the author collected *E. dabanensis* also in Polar Ural, East Sayan, Northeast Transbaikial and West Chukotka. Everywhere in the regions mentioned, the preferred biotope is of various types of mountain tundra, indeed. These are dry stony dryad-lichenous tundras or wet mossy-sedgy ones in Polar Ural, East Sayan and West Chukotka. But in the Polar Ural the species was abundant also in larch forest's clearings with spots of valley tundra of several types (at an altitude about 100 m), like the dryer stony-lichenous and the wetter mossy-sedgy tundra. In the Udokan range (Northeast Transbaikial) most of the males were collected in the river valley at 1300–1400 m in the sparse larch forest, but strictly over the dry stream's pebbly gullies (apparently, its natural biotope here) and along the stony forest roads (artificial biotope). It shared these biotopes with the males of *E. erinyon* WARREN, 1936 and

E. anyuica. However, at Udokan range the females of all these three species were found only in the stony-lichenous mountain tundra. Further, in Udokan *E. kozhantshikovi* was also flying in the very close neighbourhood of *E. dabanensis* in the valleys, but it preferred to flutter over the meadow spots and bushes at the roadsides and near the gullies, just in a few meters apart from *E. dabanensis*.

Distribution

Butterflies of *E. dabanensis sokhondoensis* have been collected on the flat summit of the nameless mountain, which orographically is the spur of the main Sokhondo massive, at altitudes of 1990–2025 m. No other localities are known up to now. There are several other mountains high enough (over 1900 m) in a radius of about 75 km around the Sokhondo massive. So it is probable to expect that *E. dabanensis sokhondoensis* might occur in the mountain tundra there. But it is almost impossible to check this as this is an unpopulated wilderness without roads. Also, it is probable that *E. dabanensis sokhondoensis* is distributed further to Southwest in the main part of the Khentey Mountains in Mongolia.

Etymology

The subspecific epithet *sokhondoensis* is derived merely from the name of Sokhondo mountains. These mountains are the most significant toponym in the region and the only hitherto known locality of the newly described subspecies.

2. *Erebia fletcheri* ELWES, 1899

Erebia fletcheri ELWES, 1899 is distributed from the Altai mountains to the Magadan region (fig. 5) [Note: all the distribution boundaries on the map are preliminary, extrapolated]. Three subspecies have been described hitherto, all from Russia.

2.1. *Erebia fletcheri fletcheri* ELWES, 1899 (colour plate XIV, figs 3–6)

Type locality: “the pass between the Kurai and the Bashkaus at about 7500 feet” – Altai Mountains, at Kurayskiy mountain range. However, it needs to be restricted, because the Kurayskiy range has a longitude of about 125 km from Northwest to Southeast, and it is unclear, which pass is mentioned. Fortunately, the thorough study the Elwes’ route, which he described in details (ELWES, 1899), gives enough information for the exact determination of the type locality. ELWES wrote: “...on the 23rd [July] turned north from Kurai, over a high pass which leads to a valley running into the Bashkaus river ... July 24th – Marched about 20 miles over a pass about 8000 feet high into a wooded valley, and encamped at about 5000 feet on a tributary of the Bashkaus Collected – 1 ♀ *Erebia* allied to *dabanensis* perhaps new; * 7000 feet. * *E. fletcheri*.

... After leaving this camp, we got into the main valley of the Bashkaus We crossed it and in the evening reached Ulaghan ”

Using modern topographic maps (scale 1: 200.000), it is clear from the description above, that the expedition left the village Kuray and ascended to the Kurayskiy range along the track in the valley of the river Kurayka. This path leads to the nameless (on the map!) pass “2.499 m”

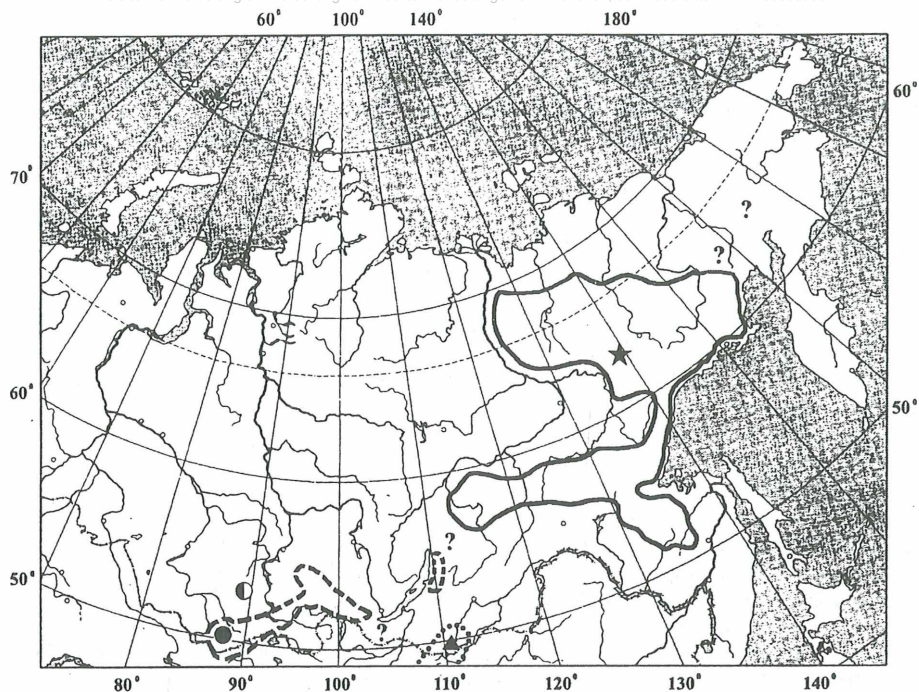


Fig. 5: Distribution of *Erebia fletcheri* and its subspecies in Eurasia.

- Type locality of *E. fletcheri fletcheri*
- Type locality of *E. fletcheri chorymensis*
- ▲ Type locality of *E. fletcheri daurica*
- ★ Type locality of *E. fletcheri chajataensis*
- - - Distribution of *E. fletcheri fletcheri*
- Distribution of *E. fletcheri daurica*
- Distribution of *E. fletcheri chajataensis*

Having crossed this pass, the expedition followed the track down along the valley of the river Pravaya Kubaydru (tributary of Bashkaus) into the valley of Bashkaus just near the Ust'-Ulagan village. This route is the most natural and convenient way from Kuray to Ust'-Ulagan across the Kurayskiy range. It is the pack animal's track, apparently being used by the natives since ancient times. The distance is about 50 km, which is easy to cover on horseback within three days, as the ELWES' expedition did.

Assuming the preceding arguments, the type locality of *Erebia fletcheri* ELWES, 1899 is restricted as follows: 50° 22' N, 87° 56' E; Russia, Altai Mountains, Kurayskiy mountain range, 14 km N from the village Kuray, the mountain pass "2499 m" between the sources of rivers Kurayka and Pravaya Kubaydru.

This taxon is described from a single female, which is deposited in NHM (RILEY & GABRIEL, 1924).

The species seems to be extremely rare and local at the Altai, as nowhere in Russian collections exists a series of specimens, despite of extensive collecting during the last decade at Kurayskiy range in particular. So the author can judge about the Altai populations of the nominotypical subspecies only according to the very realistic figure in the paper of ELWES (ELWES, 1899: pl. XII, fig. 4) and according to the colour photographs of the same type specimen (D'ABRERA, 1990: 179).

It is generally accepted that the populations of *E. fletcheri* in the Sayan Mountains belong to the nominotypical subspecies, too. The author shares this point of view, but with some minor reservations. In the aforementioned figures of the type specimen (which is a female) it is well visible, that the hindwing underside is very dark brown, with a poorly visible medial band. In the females from East Sayan the hindwing underside is not so dark, looking silvery-greyish because of the great percentage of silvery scales especially over the submarginal band and in the basal part. The medial band is well developed. However, in the photograph of the type specimen (D'ABRERA, 1990: 179) it is notable, that the specimen is somewhat worn. So this can explain, why its hindwing underside is so dark and the medial band is so poorly seen: in *E. fletcheri*, the silvery scales are very loosely attached and are being lost first of all with the specimen's flight worn.

The nominotypical subspecies is characterised by the very broad ($\frac{1}{4}$ to $\frac{1}{3}$ of the wing width) forewing submarginal band of reddish-brown colour with almost even outer and interior edges, thus roughly of equal width from the apex to the tornus; within the band are situated small black submarginal spots; by the dark hindwing underside, well dusted with silvery scales especially in the submarginal band and in the basal part (at least, the second statement is true for East Sayan specimens).

Recently *E. fletcheri* was discovered in the Barguzin mountain range, Northwest Transbaikalia. The author has studied the series of specimens from this locality (deposited in S. CHURKIN's collection, Moscow). Surprisingly, the butterflies look the same like the specimens from East Sayan and with no doubt belong to the same subspecies.

From the Khamar-Daban range the occurrence of *E. fletcheri* was never reported. However, it might occur there, because Khamar-Daban is the "bridge" which connects the Sayan mountain system with the mountains of Transbaikalia.

2.2. *Erebia fletcheri chorymensis* KORSHUNOV, 1995, in KORSHUNOV & GORBUNOV, 1995 (colour plate XIV, figs 7–10)

Type locality: "Kuznetskiy Alatau, Bobrovaya Mountain region", some paratypes are from "Kuznetskiy Alatau, Sarala river valley" – all this being near to the Bobrovaya Mountain, Kuznetskiy Alatau mountain range, about 200 km to the north-west from Abakan city, Khakasiya Republic, Russia.

This is a little known taxon, obviously very close to the nominotypical subspecies, if not the same. From the specific details in the original description it is evident, that KORSHUNOV compared his material only with the picture of ELWES' female type specimen, having no comparative material from the Sayan mountains. So all the reported distinguishing features are not valid, as they are within the normal range of the individual variation of the nominotypical subspecies. However, the author hesitates to synonymize *chorymensis* with *fletcheri* right now,

assuming this would be a premature action, without personal study of sufficient series of *chorymensis* and of toptotypical *fletcheri* from Altai.

2.3. *Erebia fletcheri chajataensis* DUBATOLOV, 1982 (colour plate XIV, figs 15–18)

Type locality: “Yakutiya, 180 km ENE of settlement Khandyga, upper stream of river Vostochnaya Khandyga, km 232 of the road Khandyga – Magadan” The type locality is situated at the Suntar-Khayata mountain range, in the eastern part of the Saha-Yakutiya Republic of the Russian Federation.

According to comparative material available, the author believes that this subspecies is distributed from the mountains of Northeast Transbaikal to the Magadan region. It is yet uncertain, where there are the western and northeastern limits of its distribution. To the southeast it is probably penetrating into East Amurland, as there was a record of *E. fletcheri* from the Myaochan mountain range, not far from Komsomol'sk-na-Amure (MUTIN, 1993). Future investigations should bring more data, whether or not the Myaochan population belongs to *E. fletcheri chajataensis*.

E. fletcheri chajataensis is a well differentiated subspecies, characterised by the narrow submarginal band of reddish-brown or ochre colour on the forewing upperside, with big black submarginal spots within the band. The hindwing underside is dark blackish-brown and almost without silver scales, so the medial band is often very poor visible.

2.4. *Erebia fletcheri daurica* subsp. nov.

Type material

Holotype ♂: ca. 49° 37' N, 111° 2' E; Russia, Chita region, Kyra district, Sokhondo Mountains, ca. 67 km WNW of village Kyra, 1650–1820 m, 16.VI.1999, A. BELIK leg. The holotype is deposited in ZISP.

Paratypes: 146 ♂♂, 47 ♀♀, same locality as the holotype, 16–26.VI.1999, 3.VII.1999, 1650–1950 m, A. BELIK leg. 4 ♂♂, 2 ♀♀ are deposited in ZISP, 2 ♂♂, 1 ♀ – in SPU, 5 ♂♂, 1 ♀ – in ZMMU, 5 ♂♂, 1 ♀ – in DMM, 2 ♂♂, 1 ♀ – in EMEM, 2 ♂♂, 1 ♀ – in VLCA, 2 ♂♂ – in coll. S. CHURKIN (Moscow), 1 ♂ – in coll. K. MATSUMOTO (Tokyo), 2 ♂♂ – in coll. V. Tuzov (Moscow), 4 ♂♂ – in coll. R. YAKOVLEV (Barnaul), 2 ♂♂ – in coll. D. ZAMOLODCHIKOV (Moscow). All the remaining paratypes are deposited in the collection of the author.

Description

Male (colour plate XIV, figs 11, 12). The forewing length of the holotype 22.0 mm. The average forewing length 21.8 mm (range: 20.0–23.5 mm).

Forewing upperside: The ground colour is a dark brown. In most specimens there is a distinct continuous submarginal band of bright reddish-orange colour or of golden-orange colour. In a very few specimens the band is discrete and looks like a row of close to close standing ocelli. In most specimens this band is running from R5 to about the middle of Cu2–2A, sometimes reaching 2A, but sometimes it begins at R4, and in some specimens it ends in cell Cu1–Cu2. It is intersected with thin dark brown dashes along the veins, though in some specimens this is

almost invisibly. The band is of roughly equal width within M1–Cu2, the terminal parts in R5–M1 and in Cu2–2A are narrower. Within the light submarginal band, there are four black submarginal spots between M1 and Cu2. In a few specimens there is a small black submarginal dot in R5–M1. The black submarginal spots vary greatly in diameter (from 3.0 to 1.0 mm) from specimen to specimen. Within each single specimen, the spots are either of roughly equal size, or the pair in M1–M3 is of smaller size than the pair in M3–Cu2. The spots are more or less elliptical, often of a drop-like shape pointed towards the outer edge of the wing. If connected with the imaginary direct line of the spots in M1–M2 and in Cu1–Cu2, then the spot in M2–M3 will be on this line, while the spot in M3–Cu1 is notably out of order and displaced to the outer edge of the wing. The light submarginal band is broad, so the distance from the lateral edges of it to the edges of the black spots are equal or greater than the diameter of the spots, in most specimens. The fringe is concolorous with the ground colour of the wing.

Hindwing upperside: The ground colour as in the forewing. Between M1–Cu2 there are usually four submarginal ocelli of the same colour as the forewing submarginal band. In a few specimens there is a small fifth ocellus in Cu2–2A. Two ocelli in M2–Cu1 are of about equal size, while those in M1–M2 and in Cu1–Cu2 are smaller. The ocelli usually are centred with black spots or dots, but this varies from specimen to specimen. The ocellus in M3–Cu1 is always centred with a black spot or dot, in the other three ocelli the black nucleus might be completely absent, as in the holotype. The fringe is of the same colour as in the forewing.

Forewing underside: The round colour as in the forewing upperside. However, in fresh specimens it has a reddish shade because of the big amount of dark red hairs. Corresponding to the submarginal band of the upperside, there is a ochre-orange or reddish-orange broad submarginal band, about $\frac{1}{4}$ of the wing width even in those rare specimens, in which the band on the upperside is narrowed and consists of separate ocelli. There are same black spots within the submarginal band, which correspond to the black spots of the upperside.

Hindwing underside: looks like divided into four zones, which are seen well in a fresh specimens but poorly visible in worn ones. There are marginal, submarginal, medial bands and the basal area. The common ground colour is dark brown, but it is hidden with more or less dense scales of other colours in some zones. The marginal band is reddish-brown, as in the forewing underside, but sometimes with a weak silvery dusting. The submarginal band has a more or less dense cover of silvery scales over the ground colour, so it looks silvery. The basal zone has some silver dusting too, especially along the border with the medial band, but this varies from specimen to specimen and sometimes (especially in more worn specimens) the border between the basal area and the medial band is almost invisible. The medial band is dark brown, with some silvery dusting along the middle in some specimens. The submarginal band contains the ocelli corresponding to those on the upperside. In most of the specimens there are four ocelli with black nuclei in the spaces between M1–Cu2, in a few specimens there is a small fifth ocellus in Cu2–2A.

Genitalia (fig. 4): of the structure characteristic for the species (cf. BELIK, 1996: 159, fig. 4; WARREN, 1936: 376; pl. 55, fig. 449).

Female (colour plate XIV, figs 13, 14). The average forewing length is 22.2 mm (range: 20.0–24.0 mm).

It has the same pattern as the male, but the coloration is somewhat paler than in it. The ground colour both of the wing's upper- and undersides is either almost the same as in the

male, or it is a little more dull brown than in the male. The forewing submarginal bands are paler both from the upper- and underside, being golden-yellow, still paler on the underside. In rare specimens it is of almost the same orange colour as in the males. The band is relatively wider than in the male. The black submarginal spots in the forewings are bigger than in the males. In one of the female paratypes the black submarginal spots both on the fore- and hindwing underside have a white nucleus within. On the hindwing underside, the submarginal band usually is dusted with silver scales more heavily than in the males.

Differential diagnosis

Erebia fletcheri daurica combines the features of the known subspecies, still being different from each. It looks like the link, which connects the populations of the Altai-Sayan mountain system with the populations of Northeast Siberia.

From the nominotypical subspecies it differs by a somewhat darker, more blackish brown wing ground colour; by the more narrow forewing submarginal band; by the colour of the light submarginal elements, bright reddish-orange or golden-orange in *daurica* while darker reddish-brown in *fletcheri*; by the size of black submarginal spots in the forewing, which in *daurica* are bigger than in *fletcheri* if series of specimens are compared.

From *chajataensis* it differs by the wider forewing submarginal band—the distance between the edge of the band and of the black spots within usually is equal or even greater than the diameter of the black spots, while in *chajataensis* this distance is less than the diameter of the spots; by the colour of the light submarginal elements, which in *chajataensis* are usually of a darker reddish-brown shade; by the length of the forewing upperside submarginal band in the males, which in *daurica* extends into about the middle of Cu2–2A, sometimes reaching 2A, while in *chajataensis* it ends in cell Cu1–Cu2; by the form of this band in the males, which in *daurica* usually looks continuous, while in *chajataensis* it most often looks like more discrete ocelli; by the hindwing underside with the well developed medial band because of the silvery dusting in the submarginal band and in the basal part, while in *chajataensis* the hindwing underside is more monotonous dark almost without silver scales, so the medial band is visible very poorly; by the hindwing upperside submarginal ocelli, which are smaller and centred with black dots (which are often reduced up to complete absence) in *daurica*, but which are bigger and centred with black spots (1–1.5 mm in diameter in average) in *chajataensis*.

Notes on the ecology

Little is known yet about the ecology of *E. fletcheri* as a species in general. From the author's personal observations in East Sayan, Sokhondo Mts. and Northeast Transbaikial (Udokan range), the natural biotope for this petrophilous and heliophilous species seems to be various kinds of open stony grounds just near the timberline, like rock screes, block boulder fields or dried pebbly stream gullies. It is not a true dweller of the mountain tundra. In its type locality *E. fletcheri daurica* occurs from about 1650 m to about 1950 m. At Sokhondo it was abundant in two habitats. The first, and probably the primary natural one, is the steep slope rock screes and the block boulder fields on the flat mountain terraces, within altitudes of 1850–1950 m. It is the zone of the timberline, with scarce single larch and Siberian cedar trees and with sparse bushes of cedar creeper (*Pinus pumila*). The second habitat, obviously artificial and secondary, is the gravel roadbed with the big stony dumps along the roadsides. It is the belt of larch–Siberian cedar forest, but *E. fletcheri daurica* was very abundant here too, down to an altitude of about 1650 m. Apparently, *E. fletcheri* has invaded this biotope from its primary habitat,

because the road leads from the valley right up to the mountain terrace where *E. fletcheri* occurs.

Distribution

Butterflies of *E. fletcheri daurica* were collected in the spur of the main Sokhondo massive. No other localities are known up to now. There are several other high enough mountains (1800 m and higher) in a radius of about 75 km around the Sokhondo massive. So it is possible to expect that *E. fletcheri daurica* might occur in suitable biotopes there. But it is impossible to check this as this is an unpopulated wilderness without roads. Also, it is probably that *E. fletcheri daurica* is distributed further to the South-west in the main part of the Khentey Mountains in Mongolia.

Etymology

The subspecific epithet *daurica* is derived from "Dauria" (= Dahuria) – an old russian name of South Transbaikalia, to denote the local distribution of the new subspecies.

Acknowledgements

The Sokhondo Mountains are situated within the territory of the State Biospheric Reserve "Sokhondinskiy". For the allowance to work within the protected territory and for the serious logistic support and cooperation, the author is deeply indebted to the administration and staff of the Reserve "Sokhondinskiy", especially to the following persons: director V. I. YASHNOV, scientific vice-director T. I. ZSHITLUKHINA, staff members A. ZABELIN, spouses E. & A. MALKOV and I. & T. MAVRIN. Further, the author is grateful to V. V. BAGLIKOV for granting comparative material from the Magadan region, to O. E. BERLOV for important historical information, to S. V. CHURKIN for the allowance to check material of his personal collection, to V. A. LUKHTANOV for the logistic support during the author's research visit to St.-Petersbourg in 1999 and for the credit of the name *daurica*, and last but not least to A. L. LÍVOVSKIY for all the kind help during the author's research work at ZISP in 1999.

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Explanation of colour plate XIII (p. 289):

Fig. 1: *Erebia dabanensis olshvangi* topotype ♂, upperside. 66°53'–66°57'N, 65°40'–65°50'E; Russia, Polar Ural Mts., railway Seyda-Labytnangi, km 140–141, summit of Mt. Slantsevaya, 355 m, 19.VII.1997, A. G. BELIK leg.

Fig. 2: Ditto, underside.

Fig. 3: *Erebia dabanensis olshvangi* topotype ♀, upperside. 66°53'–66°57'N, 65°40'–65°50'E; Russia, Polar Ural Mts., railway Seyda-Labytnangi, km 136, river Sob' valley, 95–100 m, 18.VII.1997, A. G. BELIK leg.

Fig. 4: Ditto, underside.

Fig. 5: *Erebia dabanensis dabanensis* ♂, upperside. Ca. 52°N, 101°E; Russia, Buryatia, East Sayan Mts., Kitoyskiye Goltsy range, 5 km NE of lake Il'chir, 2400 m, 29.VI.1994, A. G. BELIK leg.

Fig. 6: Ditto, underside.

Fig. 7: *Erebia dabanensis dabanensis* ♀, upperside. Ca. 52°N, 101°E; Russia, Buryatia, East Sayan Mts., Kitoyskiye Goltzy range, 5 km NE of lake Il'chir, 2400 m, 29.VI.1994, A. G. BELIK leg.

Fig. 8: Ditto, underside.

Fig. 9: *Erebia dabanensis sokhondoensis* subspec. nov., holotype ♂, upperside. Ca. 49°37'N, 111°2'E; Russia, Chita region, Kyra district, Sokhondo Mts., ca. 67 km WNW of village Kyra, 1990–2025 m, 18.VI.1999, A. G. BELIK leg.

Fig. 10: Ditto, underside.

Fig. 11: *Erebia dabanensis sokhondoensis* subspec. nov., paratype ♀, upperside. Ca. 49°37'N, 111°2'E; Russia, Chita region, Kyra district, Sokhondo Mts., ca. 67 km WNW of village Kyra, 1990–2025 m, 23.VI.1999, A. G. BELIK leg.

Fig. 12: Ditto, underside.

Fig. 13: *Erebia dabanensis chingiza* ♂, upperside. Ca. 56°36'N, 118°32'E; Russia, Chita region, 22–24 km SE of settlement Udokan, SW extremity of Udokanskiy range, upper stream of river Naminga, 1330–1400 m, 13.VII.1998, A. G. BELIK leg.

Fig. 14: Ditto, underside.

Fig. 15: *Erebia dabanensis chingiza* ♀, upperside. Ca. 56°36'N, 118°32'E; Russia, Chita region, 22 km SE of settlement Udokan, SW extremity of Udokanskiy range, upper stream of river Naminga, 1555–2000 m, 21.VII.1998, A. G. BELIK leg.

Fig. 16: Ditto, underside.

Fig. 17: *Erebia dabanensis troubridgei* ♂, upperside. Russia, Magadan region, Khasynskiy district, vicinity of settlement Palatka, 500–800 m, 23.VI.1995, V. V. BAGLIKOV leg.

Fig. 18: Ditto, underside.

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10	11	12
13	14	15
16	17	18

Explanation of colour plate XIV (p. 291):

Fig. 1: *Erebia dabanensis troubridgei* ♀, upperside. Russia, Magadan region, Khasynskiy district, vicinity of settlement Palatka, 500–800 m, 1.VII.1995, V. V. BAGLIKOV leg.

Fig. 2: Ditto, underside.

Fig. 3: *Erebia fletcheri fletcheri* ♂, upperside. Russia, Buryatia, 6–7 km N, of village Mondy, East Sayan Mts., Tunkinskiye Goltzy range, Mt. Khulugaysha, 2000–2300 m, 15.VI.1994, A. G. BELIK leg.

Fig. 4: Ditto, underside.

Fig. 5: *Erebia fletcheri fletcheri* ♀, upperside. Ca. 52°N, 101°E; Russia, Buryatia, East Sayan Mts., Kitoyskiye Goltzy range, 5 km NE of lake Il'chir, 2100 m, 30.VI.1994, A. G. BELIK leg.

Fig. 6: Ditto, underside.

Fig. 7: *Erebia fletcheri chorymensis* ♂, upperside. Ca. 54°42'N, 88°24'E; Russia, Kemerovo region, Kuznetskiy Altay Mts., Mt. Chemodan, 9.VII.1996, V. V. IVONIN leg.

Fig. 8: Ditto, underside.

Fig. 9: *Erebia fletcheri chorymensis* ♀, upperside. Ca. 54°42'N, 88°24'E; Russia, Kemerovo region, Kuznetskiy Altay Mts., Mt. Chemodan, 9.VII.1996, V. V. IVONIN leg.

Fig. 10: Ditto, underside.

Fig. 11: *Erebia fletcheri daurica* subspec. nov., holotype ♂, upperside. Ca. 49°37'N, 111°2'E; Russia, Chita region, Kyra district, Sokhondo Mts., ca. 67 km WNW of village Kyra, 1650–1820 m, 16.VI.1999, A. G. BELIK leg.

Fig. 12: Ditto, underside.

Fig. 13: *Erebia fletcheri daurica* subspec. nov., paratype ♀, upperside. Ca. 49°37'N, 111°2'E; Russia, Chita region, Kyra district, Sokhondo Mts., ca. 67 km WNW of village Kyra, 1850–2025 m, 18.VI.1999, A. G. BELIK leg.

Fig. 14: Ditto, underside.

Fig. 15: *Erebia fletcheri chajataensis* topotype ♂, upperside. Russia, Yakutia, Tomponskiy district, Suntar-Khayata range, road Khandyga–Magadan, km 229, 900 m, 16.VI.1991, A. G. BELIK leg.

Fig. 16: Ditto, underside.

Fig. 17: *Erebia fletcheri chajataensis* ♀, upperside. Russia, Magadan region, Khasynskiy district, vicinity of settlement Palatka, 500–1000 m, 20–27.VI.1995, V. V. BAGLIKOV leg.

Fig. 18: Ditto, underside.

1	2	3
4	5	6
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10	11	12
13	14	15
16	17	18

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Colour plate XIII

BELIK, A. G.: Notes on the taxonomy and geographical distribution of *Erebia dabanensis* ERSCHOFF, 1871 and *Erebia fletcheri* ELWES, 1899 with the description of two new subspecies from the South Transbaikial, Russia (Lepidoptera, Satyridae). – *Atalanta* **32** (1/2): 197–215.

Fig. 1: *Erebia dabanensis olshvangi* topotype ♂, upperside. 66°53'–66°57'N, 65°40'–65°50'E; Russia, Polar Ural Mts., railway Seyda-Labytnangi, km 140–141, summit of Mt. Slantsevaya, 355 m, 19.VII.1997, A. G. BELIK leg.

Fig. 2: Ditto, underside.

Fig. 3: *Erebia dabanensis olshvangi* topotype ♀, upperside. 66°53'–66°57'N, 65°40'–65°50'E; Russia, Polar Ural Mts., railway Seyda-Labytnangi, km 136, river Sob' valley, 95–100 m, 18.VII.1997, A. G. BELIK leg.

Fig. 4: Ditto, underside.

Fig. 5: *Erebia dabanensis dabanensis* ♂, upperside. Ca. 52°N, 101°E; Russia, Buryatia, East Sayan Mts., Kitoyskiye Goltsy range, 5 km NE of lake Il'chir, 2400 m, 29.VI.1994, A. G. BELIK leg.

Fig. 6: Ditto, underside.

Fig. 7: *Erebia dabanensis dabanensis* ♀, upperside. Ca. 52°N, 101°E; Russia, Buryatia, East Sayan Mts., Kitoyskiye Goltsy range, 5 km NE of lake Il'chir, 2400 m, 29.VI.1994, A. G. BELIK leg.

Fig. 8: Ditto, underside.

Fig. 9: *Erebia dabanensis sokhondoensis* subspec. nov., holotype ♂, upperside. Ca. 49°37'N, 111°2'E; Russia, Chita region, Kyra district, Sokhondo Mts., ca. 67 km WNW of village Kyra, 1990–2025 m, 18.VI.1999, A. G. BELIK leg.

Fig. 10: Ditto, underside.

Fig. 11: *Erebia dabanensis sokhondoensis* subspec. nov., paratype ♀, upperside. Ca. 49°37'N, 111°2'E; Russia, Chita region, Kyra district, Sokhondo Mts., ca. 67 km WNW of village Kyra, 1990–2025 m, 23.VI.1999, A. G. BELIK leg.

Fig. 12: Ditto, underside.

Fig. 13: *Erebia dabanensis chingiza* ♂, upperside. Ca. 56°36'N, 118°32'E; Russia, Chita region, 22–24 km SE of settlement Udokan, SW extremity of Udokanskiy range, upper stream of river Naminga, 1330–1400 m, 13.VII.1998, A. G. BELIK leg.

Fig. 14: Ditto, underside.

Fig. 15: *Erebia dabanensis chingiza* ♀, upperside. Ca. 56°36'N, 118°32'E; Russia, Chita region, 22 km SE of settlement Udokan, SW extremity of Udokanskiy range, upper stream of river Naminga, 1555–2000 m, 21.VII.1998, A. G. BELIK leg.

Fig. 16: Ditto, underside.

Fig. 17: *Erebia dabanensis troubridgei* ♂, upperside. Russia, Magadan region, Khasynskiy district, vicinity of settlement Palatka, 500–800 m, 23.VI.1995, V. V. BAGLIKOV leg.

Fig. 18: Ditto, underside.

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

Colour plate XIII



Colour plate XIV

BELIK, A. G.: Notes on the taxonomy and geographical distribution of *Erebia dabanensis* ERSCHOFF, 1871 and *Erebia fletcheri* ELWES, 1899 with the description of two new subspecies from the South Transbaikal, Russia (Lepidoptera, Satyridae). – *Atalanta* **32** (1/2): 197–215.

Fig. 1: *Erebia dabanensis troubridgei* ♀, upperside. Russia, Magadan region, Khasynskiy district, vicinity of settlement Palatka, 500–800 m, 1.VII.1995, V. V. BAGLIKOV leg.

Fig. 2: Ditto, underside.

Fig. 3: *Erebia fletcheri fletcheri* ♂, upperside. Russia, Buryatia, 6–7 km N, of village Mondy, East Sayan Mts., Tunkinskiye Goltsy range, Mt. Khulugaysha, 2000–2300 m, 15.VI.1994, A. G. BELIK leg.

Fig. 4: Ditto, underside.

Fig. 5: *Erebia fletcheri fletcheri* ♀, upperside. Ca. 52°N, 101°E; Russia, Buryatia, East Sayan Mts., Kitoyskiye Goltsy range, 5 km NE of lake Il'chir, 2100 m, 30.VI.1994, A. G. BELIK leg.

Fig. 6: Ditto, underside.

Fig. 7: *Erebia fletcheri chorymensis* ♂, upperside. Ca. 54°42'N, 88°24'E; Russia, Kemerovo region, Kuznetskiy Alatau Mts., Mt. Chemodan, 9.VII.1996, V. V. IVONIN leg.

Fig. 8: Ditto, underside.

Fig. 9: *Erebia fletcheri chorymensis* ♀, upperside. Ca. 54°42'N, 88°24'E; Russia, Kemerovo region, Kuznetskiy Alatau Mts., Mt. Chemodan, 9.VII.1996, V. V. IVONIN leg.

Fig. 30: Ditto, underside.

Fig. 11: *Erebia fletcheri daurica* subsp. nov., holotype ♂, upperside. Ca. 49°37'N, 111°2'E; Russia, Chita region, Kyra district, Sokhondo Mts., ca. 67 km WNW of village Kyra, 1650–1820 m, 16.VI.1999, A. G. BELIK leg.

Fig. 12: Ditto, underside.

Fig. 13: *Erebia fletcheri daurica* subsp. nov., paratype ♀, upperside. Ca. 49°37'N, 111°2'E; Russia, Chita region, Kyra district, Sokhondo Mts., ca. 67 km WNW of village Kyra, 1850–2025 m, 18.VI.1999, A. G. BELIK leg.

Fig. 14: Ditto, underside.

Fig. 15: *Erebia fletcheri chajataensis* topotype ♂, upperside. Russia, Yakutia, Tomponskiy district, Suntar-Khayata range, road Khandyga–Magadan, km 229, 900 m, 16.VI.1991, A. G. BELIK leg.

Fig. 16: Ditto, underside.

Fig. 17: *Erebia fletcheri chajataensis* ♀, upperside. Russia, Magadan region, Khasynskiy district, vicinity of settlement Palatka, 500–1000 m, 20–27.VI.1995, V. V. BAGLIKOV leg.

Fig. 18: Ditto, underside.

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Colour plate XIV

